

TITLE OF THE INVENTION

APPARATUS AND METHOD FOR CREATING DISTRIBUTION CONTENT

BACKGROUND OF THE INVENTION

5 Field of the Invention

[0001] The present invention relates to distribution content creating apparatuses and, more specifically, a distribution content creating apparatus for creating a video or music content provided with use conditions.

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Description of the Background Art

[0002] In recent years, content distribution services become available for distributing video or music contents to terminals such as personal computers and portable phones. In such content distribution service, a content (content body) is not simply distributed by itself. In order to prevent illegal copy, the content body is provided with conditions restricting the use of the content body, forming a content for distribution (distribution content). In consideration of foreseeable expansion of the content distribution service, it is urgently required to develop distribution content creating apparatuses capable of efficiently creating various distribution contents.

[0003] A conventional distribution content creating apparatus creates a distribution content in the following procedure. That is, the conventional apparatus stores content bodies, and edits

management data for the respective content bodies. Then, the generated management data is provided to the content body, and the resulting content is the distribution content, and handled as a package.

5 **[0004]** The management data edited by the conventional apparatus includes data indicating conditions for the use of the content body at destination terminals, such as "playable only when a fee is paid", and "playable within a certain period". In the conventional apparatus, such management data is generated and provided to the respective content bodies.

10 **[0005]** The distribution content created in the above manner is temporarily stored in the distribution content creating apparatus, and then forwarded to a distributing apparatus. The distributing apparatus distributes the forwarded distribution content to a terminal through a network. The terminal receives the distribution content, and replays the content body according to the management data provided to the content.

15 **[0006]** As described above, the conventional distribution content creating apparatus creates a distribution content including a content body provided with conditions restricting the use of the content body at the terminals. Therefore, for example, it is possible to distribute a promotion distribution content playable for free only within a predetermined period and a full-package distribution content playable upon payment of a fee.

25 **[0007]** In the conventional distribution content creating

apparatus, one piece of management data is provided for each content body. Therefore, replay restriction and billing can be disadvantageously made only by unit of content body. If such a distribution content as that provided with conditions effective only to part of the content body can be created, the distribution content will be usable for various purposes never achievable so far, hopefully leading to a boost in sales of contents through distribution.

[0008] Another disadvantage of the conventional apparatus is that different distribution contents have to be created for different purposes for the same content body, and stored in the apparatus. For example, a promotion distribution content and a full-package distribution content have to be created and stored for the same content body. Therefore, the same content body is redundantly stored, thereby wasting a large amount of storage. At the terminal side, if the user desires to try the content first before purchase, the user has to first receive the promotion distribution content, and then further receive the full-package one. This means the user has to redundantly receive the same content body, thereby wasting time and communications cost.

SUMMARY OF THE INVENTION

[0009] Therefore, an object of the present invention is to provide an apparatus capable of creating a distribution content provided with a condition only effective to part of a content body.

[0010] Another object of the present invention is to provide an apparatus capable of creating a distribution content including a content body provided with a plurality of conditions respectively corresponding various use purposes.

5 The present invention has the following features to attain the objects above.

A first aspect of the present invention is directed to a distribution content creating apparatus that includes:

content storage means for storing content bodies;

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10 distribution content creating means for creating a distribution content by reading a content body from the content storage means and providing the content body with a use condition; and

15 content storage means for storing the distribution content created by the distribution content creating means, wherein

20 the distribution content creating means includes management data editing means for editing management data indicating the use condition effective to a specific section of the read content body, and

the distribution content creating means creates the distribution content by providing the content body with at least one piece of management data edited by the management data editing means.

25 [0011] In the first aspect (also in the following tenth and

eleventh aspects), a specific section of the content body is defined , and management data indicating the use condition only effective to the specified section is edited. Then, the management data is provided to the content body for distribution.

5 Thus, it is possible to create a distribution content provided with the use condition only effective to part of the content body.

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10 [0012] The above created distribution content is stored in the distribution content creating apparatus, and then distributed by a distributing apparatus to a terminal. The terminal receives and stores the distribution content, and then reads it for replay. When replaying the distribution content, the terminal replays the specific section of the content body based on the management data.

15 [0013] According to a second aspect, in the first aspect, the use condition indicated by the management data prohibits use of the section specified by the management data, allows the use of the section specified by the management data for free, or allows the use of the section specified by the management data in return for payment of a predetermined fee.

20 [0014] In the above second aspect, a specific section of the content body is defined, and can be set so that the terminal is prohibited from using it, or allowed to use it for free or upon payment of a fee.

[0015] According to a third aspect, in the first aspect, the management data further indicates a replay order
25 of the section specified by the management data.

[0016] In the above third aspect, the terminal can arbitrarily set the order of replaying the sections.

[0017] According to a fourth aspect, in the first aspect, the distribution content creating means creates the distribution content by further providing the content body with a plurality of pieces of management track data, and

each piece of management track data defines a collection of at least one piece of the management data indicating at least one section used for a predetermined purpose as one management track corresponding to the purpose.

[0018] In the above fourth aspect, it is possible to create a distribution content including a content body provided with a plurality of pieces of management track data corresponding to various use purposes (for example, for a promotion purpose where the content body is allowed to be only partly used for free, or for a full-package purpose where the entire content body is allowed to be used upon payment of a fee). Consequently, compared with the conventional apparatus that creates different distribution contents for different use purposes, redundancy of storing the same content body can be eliminated, thereby saving the storage amount of the distribution content creating apparatus side and the terminal side, and also reducing communications cost at the time of distribution. Furthermore, only one distribution content is enough to be received by the terminal side for using the content body for a user's desired purpose.

[0019] According to a fifth aspect, in the fourth aspect,
the apparatus further includes character input means
for supplying a character input; and

GUI input means for supplying a GUI input, wherein
5 the management data editing means makes a GUI screen
displayed, the GUI screen including a plurality of management
tracks provided along a time axis,

the management data editing means edits the management
data of the specific section by receiving, through the character
10 input means, a start time and an end time for defining the specific
section of the content body on the time axis, and the use condition
for the predetermined purpose, and

the management data editing means places, based on the
edited management data, a bar on the management track
15 corresponding to the purposes in the GUI screen.

[0020] In the above fifth aspect, for each content use purpose
(for example, for a promotion purpose where the content body is
allowed to be only partly used for free, or for a full-package
purpose where the entire content body is allowed to be used upon
20 payment of a fee), a start time and an end time for defining a
section on the time axis, and a use condition are inputted as
character inputs, thereby editing the management data for that
section. Then, based on the management data obtained for each
purpose, a bar corresponding to each section (the bar with one
25 end located at the start time and the other end located at the

end time) is placed on the management track corresponding to the purpose in the GUI screen.

[0021] According to a sixth aspect, in the fifth aspect, the distribution content creating means further includes management data storage means for storing the management data edited by the management data editing means.

[0022] In the above sixth aspect, the management data is stored separately from the distribution content including the content body provided with the management data.

[0023] According to a seventh aspect, in the sixth aspect, the management data editing means reads the management data previously edited from the management data storage means, and places, based on the read management data, a bar on the management track in the GUI screen, and

the management data editing means edits the management data by moving one end and/or the other end of the bar along the time axis through an operation by the GUI input means.

[0024] In the above seventh aspect, when the management data is edited, a bar is displayed on the management track of the GUI screen based on the management data previously edited. Then, by moving either or both of the ends of the bar by the GUI input means, the management data is edited. This saves the operator the trouble of supplying character inputs.

[0025] According to an eighth aspect, in the fourth aspect, the distribution content creating means further

includes replay means for reading the distribution content from the distribution content storage means and replaying, based on the management data, the specific section of the content body.

5 [0026] In the above eighth aspect, the operator of the distribution content creating apparatus can check how the distribution content will be replayed at the terminal side.

10 [0027] According to a ninth aspect, in the eighth aspect, the replay means selects one of the plurality of pieces of management track data included in the read distribution content and, based on at least one piece of the management data included in the management track defined by the management track data, and replays at least one specific section of the content body.

15 [0028] In the above ninth aspect, when the operator specifies the use purpose, the management track corresponding to the specified purpose is selected. Then, based on the management data included in the management track, a specific section of the content body is replayed. Thus, the operator of the distribution content creating apparatus can check how the distribution content will be replayed at the terminal side for each purpose.

20 [0029] A tenth aspect of the present invention is directed to a method of creating a distribution content including a content body provided with a use condition, and the method includes:

a step of storing content bodies;

25 a step of creating a distribution content (20) by reading a content body stored in the content body storing step

and providing the content body with the use condition; and

a step of storing the distribution content created in the distribution content creating step, wherein

in the distribution content creating step,

5 management data indicating the use condition for a specific section of the content body is edited, and

the distribution content is created by providing the content body with at least one piece of the edited management data

[0030] An eleventh aspect of the present invention is directed to a content distribution system that includes:

a distribution content creating apparatus for creating a distribution content including a content body provided with a use condition;

15 a distributing apparatus for distributing the distribution content created by the distribution content creating apparatus; and

a terminal for receiving and using the distribution content distributed by the distributing apparatus, wherein

the distribution content creating apparatus includes:

20 content storage means for storing content bodies;

distribution content creating means for creating the distribution content by reading a content body from the content storage means and providing the content body with the use condition; and

25 first distribution content storage means for

storing the distribution content created by the distribution content creating means,

the distribution content creating means includes management data editing means for editing management data
5 indicating the use condition for a specific section of the content body,

the distribution content creating means creates the distribution content by providing the content body with at least one piece of the management data edited by the management data
10 editing means, and

the terminal includes

receiving means for receiving the distribution content distributed by the distributing apparatus;

second distribution content storage means for
15 storing the distribution content received by the receiving means; and

replay means for reading the distribution content from the second distribution content storage means, and replaying, based on the management data, the specific section of the content
20 body.

[0031] A twelfth aspect of the present invention is directed to a terminal for receiving and using a distribution content including a content body, and management data indicating a use condition for a specific section of the content body, and the
25 terminal includes:

receiving means for receiving the distribution content;

distribution content storage means for storing the distribution content received by the receiving means; and

5 replay means for reading the distribution content from the distribution content storage means, and replaying, based on the management data, the specific section of the content body.

10 **[0032]** In the above twelfth aspect, at least one section specified by at least one piece of management data included in the distribution content is replayed according to the condition specified by the management data.

[0033] According to a thirteenth aspect, in the twelfth aspect,

15 the use condition indicated by the management data prohibits use of the section specified by the management data, allows the use of the section specified by the management data for free, or allows the use of the section specified by the management data in return for payment of a predetermined fee,

20 the terminal further comprises billing means for billing based on the management data, and

 when the use condition allows the use of the section for free, the replay means replays the section, and when the use condition allows the use of the section in return for payment of the predetermined fee, the replay means replays the section after
25 the billing means charges the fee.

[0034] In the above thirteenth aspect, each specific section of the content can be so set as to be prohibited from being used, allowed to be used for free or upon payment of a fee. The section is replayed if allowed to be used for free. If allowed to be used upon payment of a predetermined fee, the section is replayed after the fee is charged.

[0035] According to a fourteenth aspect, in the twelfth aspect,

the management data further indicates a replay order of the section specified by the management data, and

the replay means replays at least one section specified by the management data in the replay order indicated by the management data.

[0036] In the above fourteenth aspect, each section of the content body has a replay order set therein. The sections are replayed in decreasing replay order.

[0037] According to a fifteenth aspect, in the twelfth aspect,

the distribution content further includes a plurality of pieces of management track data defining a collection of at least one piece of the management data indicating at least one section used for a predetermined purpose as one management track corresponding to the purpose, and

the replay means selects one of the plurality of pieces of management track data included in the read distribution content and, based on at least one piece of the management data included

in the management track defined by the management track data, replays at least one specific section of the content body.

[0038] In the above fifteenth aspect, when the user specifies the use purpose, the management track corresponding to the use purpose is selected. Then, based on at least one piece of management data included in the management track, at least one specific section of the content is replayed. Thus, by receiving the distribution content only once, it is possible to use the content body for various purposes, such as for trying part of the content body for free and then using the entire content body by paying the fee.

[0039] A sixteenth aspect of the present invention is directed to a distribution content that includes:

a content body; and

at least one piece of management data, wherein

the management data indicates a use condition for a specific section of the content body.

[0040] In the above sixteenth aspect, the content body is provided with the management data indicating a use condition for a specific section of the content body, forming a distribution content. The terminal receives such distribution content, and replays the specific section of the content body based on the management data.

[0041] According to a seventeenth aspect, in the sixteenth aspect,

the use condition indicated by the management data prohibits use of the section specified by the management data, allows the use of the section specified by the management data for free, or allows the use of the section specified by the management data in return for payment of a predetermined fee.

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[0042] In the above seventeenth aspect, each specific section of the content can be so set as to be prohibited from being used, allowed to be used for free or upon payment of a fee. The terminal that receives the distribution content for use replays the section if it is allowed to be used for free and, if it is allowed to be used upon payment of a predetermined fee, replays the section after the fee is charged.

[0043] According to an eighteenth aspect, in the sixteenth aspect,

15 the management data further indicates a replay order of the section specified by the management data.

[0044] In the above eighteenth aspect, each section of the content body has a replay order set therein. The sections are replayed in decreasing replay order.

20 [0045] In a nineteenth aspect, in the sixteenth aspect, the distribution content further includes a plurality of pieces of management track data, wherein

each piece of management track data defines a collection of at least one piece of the management data indicating at least one section used for a predetermined purpose as one

management track corresponding to the purpose.

[0046] In the above nineteenth aspect, the content body is provided with a plurality of pieces of management track data respectively corresponding to various use purposes. When the user specifies the use purpose, the terminal that receives the distribution content for use selects the management track corresponding to the specified use purpose. Then, based on at least one piece of management data included in the management track, the terminal replays at least one specified section of the content body.

[0047] These and other objects, features, aspects and advantages of the present invention will become more apparent from the following detailed description of the present invention when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0048] FIG. 1 is a block diagram illustrating the structure of a content distribution system according to one embodiment of the present invention;

FIG. 2 is a flowchart showing outlines of the operation of the content distribution system of FIG. 1;

FIG. 3 is a block diagram illustrating the functional structure of a distribution content creating apparatus 1 of FIG. 1;

FIG. 4 is a diagram illustrating the data structure of

a distribution content created by a distribution content creating unit 13 of FIG. 4;

FIG. 5 is a diagram showing one example of header information included in a header portion of FIG. 4;

5 FIG. 6 is a diagram illustrating one example of management track data included in a management track portion of FIG. 4;

10 FIG. 7 is a diagram illustrating one example of management data included in the management track portion of FIG. 4;

FIG. 8 is a block diagram illustrating one example of hardware structure of the distribution content creating apparatus 1 of FIG. 1;

15 FIG. 9 is a flowchart showing a management data editing process (detailed process of step S1 in FIG. 2) carried out by the distribution content creating apparatus 1 structured as shown in FIG. 3;

20 FIG. 10 is a diagram illustrating one example of a GUI screen displayed on a display unit 16 by following an instruction from a management data editing part 131 of FIG. 3;

FIG. 11 is a diagram illustrating one example of a character input screen displayed on the display unit 16 by following an instruction from the management data editing part 131 of FIG. 3;

25 FIG. 12 is a diagram illustrating one example of a

management data selection screen displayed on the display unit 16 by following an instruction from the management data editing part 131 of FIG. 3;

FIG. 13 is a flowchart showing a distribution content replay process (detailed process of step S4 in FIG. 2) carried out by the distribution content apparatus 1 structured as shown in FIG. 3;

FIG. 14 is a block diagram illustrating one example of structure of a terminal 4 of FIG. 1;

FIG. 15 is a flowchart showing a distribution content replay process (detailed process of step S8 in FIG. 2) carried out by the terminal 4 structured as shown in FIG. 14;

FIG. 16 is a flowchart showing a detailed process of step S304 of FIG. 15; and

FIG. 17 is a diagram showing how a replay unit 44 replays data for respective sections in the order specified by management data 208 to 210.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0049] With reference to the drawings, described below is one embodiment of the present invention.

FIG. 1 is a block diagram illustrating the structure of a content distribution system according to one embodiment of the present invention. In FIG. 1, the present content distribution system includes a distribution content creating

apparatus 1, a distributing apparatus 2, a network 3, and a terminal 4.

5 [0050] The distribution content creating apparatus 1 edits management data for a content body to be distributed, and provides the management data to the content body for creating a distribution content. Here, a "content body" is video such as a movie, or audio such as a piece of music. The management data is data indicating conditions for replaying the content body (details are described later). The "distribution content" is a package including a content body provided with management data.

10 [0051] The distributing apparatus 2 distributes the distribution content through the network 3 to the terminal 4. The network 3 is a medium for transferring the distribution content from the distributing apparatus 2 to the terminal 4, and implemented by, for example, a communications network such as the Internet or a portable phone network, or a broadcast network such as a satellite broadcast network.

15 [0052] The terminal 4 receives and replays the distribution content. At this time, the terminal 4 replays the content body based on the management data. The terminal 4 is typically implemented by a general-purpose personal computer or a portable phone but, alternatively, may be a terminal dedicated to the present system.

20 [0053] With reference to a flowchart of FIG. 2, outlines of the operation of the above-structured content distribution system

are described below.

FIG. 2 is a flowchart showing the outlines of the operation of the content distribution system of FIG. 1. In FIG. 2, the distribution content creating apparatus 1 stores content bodies, and edits management data for the respective content bodies on management tracks (step S1). Then, the distribution content creating apparatus 1 provides the management data edited in step S1 to the respective content bodies together with management track data for creating a packaged distribution content (step S2).

[0054] The distribution content created in the above manner is temporarily stored in the distribution content creating apparatus 1 (step S3). Then, the distribution content is replayed for check at the distribution content creating apparatus 1 side (step S4). Then, the distribution content is forwarded to the distributing apparatus 2 (step S5).

The distributing apparatus 2 distributes the received distribution content through the network 3 to the terminal 4.

The terminal 4 receives the distribution content (step S6), and then stores it (step S7). The terminal 4 then reads the distribution content in response to a user's instruction, and replays the content body by following the management data provided thereto (step S8).

[0055] Described next in detail is the structure and operation of the distribution content creating apparatus 1 of FIG. 1 (steps

S1 to S4 of FIG. 2).

FIG. 3 is a block diagram showing the functional structure of the distribution content creating apparatus 1 of FIG. 1. In FIG. 3, the distribution content creating apparatus 1 includes a content storage unit 11, a distribution content storage unit 12, a distribution content creating unit 13, a character input unit 14, a GUI input unit 15, a display unit 16, and a replay unit 17. The distribution creating unit 13 includes a management data editing part 131 and a management data storage part 132.

[0056] The content storage unit 11 stores content bodies. The character input unit 14 receives an character input by an operator. The GUI input unit 15 receives a GUI input by the operator. The distribution content creating unit 13 reads a content body from the content storage unit 11, edits management data for the content body, and provides the edited management data to the content body for creating a distribution content.

[0057] At this time, in the distribution content creating unit 13, the management data editing part 131 makes the display unit 16 display a screen for editing by GUI as shown in FIG. 10 (described later), a screen for character input as shown in FIG. 11 (described later), and a screen for management data selection as shown in FIG. 12. The management data editing part 131 then edits the management data in response to an input operation by the operator through the respective screens. The

management data editing part 131 then stores the edited management data in the management data storage unit 132.

[0058] Assuming that the content body is used for a plurality of purposes, the distribution content creating unit 13 edits the management data on a plurality of management tracks corresponding to the respective purposes. The distribution content creating unit 13 then generates a plurality of pieces of management track data defining, as a management track, a collection of at least one piece of management data indicating at least one section used for the same purpose. The distribution content creating unit 13 then provides the management data and the management track data to the content body for creating a distribution content, and stores it in the distribution content storage unit 12.

[0059] In other words, the distribution content (content body + management track data + management data) created by the distribution content creating unit 13 is stored in the distribution content storage unit 12, and also the management data is separately stored in the management data storage part 132 of the distribution content creating unit 13.

[0060] Here, the data structure of the distribution content is described. FIG. 4 is a diagram illustrating one example of data structure of the distribution content created by the distribution content creating apparatus of FIG. 1. In FIG. 4, a distribution content 20 includes a header portion 21, a content portion 22, and a plurality of management track portions 23. The

header portion 21 includes header information 24 indicating the data structure of the distribution content 20. The content portion 22 includes a content body 25. Each management track portion 23 includes one piece of management track data 26 and one
5 or more pieces of management data 27.

[0061] FIG. 5 is a diagram illustrating one example of the header information 24 included in the header portion 21 of FIG. 4. In FIG. 5, the header information 24 contains "totalSize" indicating the total data size of the distribution content 20,
10 "pContentData" indicating a pointer to the content body 25, "contentDataSize" indicating the data size of the content body 25, "numTrack" indicating the number of management tracks, "defaultTrackNo" indicating a default track number, "pTrack" indicating a pointer to the head management track portion 23,
15 "trackSize" indicating the size of the head management track portion 23.

[0062] FIG. 6 is a diagram illustrating one example of the management track data 26 included in the management track portion 23 of FIG. 4. In FIG. 6, the management track data 26
20 contains "numData" indicating the total number of pieces of management data 27 included in the management track portion 23, "pOffsetData" indicating a pointer to the header management data 27, and "dataSize" indicating the size of the management data 27.

25 **[0063]** FIG. 7 is a diagram illustrating one example of the

management data 27 included in the management track portion 23 of FIG. 4. In FIG. 7, the management data 27 contains "inTime" indicating a start time, "outTime" indicating an end time, "playtype" indicating a replay condition, "finacialtype" indicating a billing condition, and "playorder" indicating a replay order.

10 [0064] Referring back to FIG. 3, the replay unit 17 is provided for checking how the distribution content created in the above manner will be replayed by the terminal. In response to an instruction by the operator through the GUI input unit 15, the replay unit 15 reads the distribution content from the distribution content storage unit 12 for replay, and outputs it to the display unit 16.

15 [0065] FIG. 8 is a block diagram illustrating one example of hardware structure of the distribution content creating apparatus 1 of FIG. 1. In FIG. 8, the distribution content creating apparatus 1 includes ROM 102, RAM 103, a sound/video board 104, and a hard disk (HD) 105, a keyboard 106, a mouse 107, a monitor 108, and a loudspeaker 109.

20 In FIG. 3, the content storage unit 11 and the distribution content storage 12 are implemented by the hard disk 105; the character input unit 14 is implemented by the keyboard 106; the GUI input unit 15 is implemented by the mouse 107; the display unit 16 is implemented by the monitor 108
25 and the loudspeaker 109.

[0066] The distribution content creating unit 13 is implemented by the CPU 101, the ROM 102, and the RAM 103. That is, on receiving an instruction provided by the user through the keyboard 106 and/or the mouse 107, the CPU 101 operates by following predetermined content creating program data previously stored in the ROM 102. The RAM 103 is used as a working area when the CPU 101 operates.

[0067] The replay unit 17 is implemented by the CPU 101, the ROM 102, the RAM 103, and the sound/video board 104. That is, on receiving an instruction provided by the user through the keyboard 106 and/or the mouse 107, the CPU 101 controls the sound/video board 104 by following predetermined content replay program previously stored in the ROM 102. The RAM 103 is used as a working area when the CPU 101 and the sound/video board 104 operate.

[0068] Here, the above content creating/replay program data may be provided as stored in a portable recording medium such as CD-ROM, instead of being previously stored in the ROM 102. Alternatively, the program data may be provided to the distribution content creating apparatus 1 through the network. The program data provided as such is loaded in the hard disk 105, and then forwarded to the RAM 103 at the time of content creation/replay.

[0069] FIG. 9 is a flowchart showing a management data editing process (a detailed process of step S1 in FIG. 2) carried out by

[0071] On the management tracks 207, 211, and 213, short bars are displayed along the content body 206 appeared on the content track 205, based on management data corresponding to the section defined by the above separation lines. For example, on the
5 "management track 1" 207, a short bar 208 is displayed based on management data for a section from t1 to t2 defined by the separation lines 216 and 217.

[0072] On an upper portion of the GUI input screen of FIG. 10, four buttons are displayed. When a "button 1" 200 is clicked,
10 a character input screen as shown in FIG. 11 (described later) is further displayed on the display unit 16. When a "button 2" 201 is clicked, the two separation lines 216 and 217 are displayed on the content track 205, indicating start and end times, respectively, inputted through the above character input screen.
15 When a "button 3" 202 is clicked, a new management track is additionally displayed. When a "button 4" 203 is clicked, a management data selection screen as shown in FIG. 12 (described later) is further displayed on the display unit 13.

[0073] When such GUI screen as above is displayed (presenting,
20 at this moment, the four buttons 200 to 203, the time axis 204, and the content track 205), the operator clicks the "button 1" 200 through the GUI input unit 15. In response, the management data editing part 131 makes the display unit 16 display such a character input screen as shown in FIG. 11 (step S102).

25 [0074] Here, FIG. 11 is a diagram illustrating one example of

[0077] The operator then clicks the "button 2" 201 on the GUI screen. In response, based on the management data indicating that replay conditions including "first", "conditional replay", and "200 yen" are set in the section from t1 to t2, the management data editing part 131 makes the short bar 208 displayed in the section from t1 to t2 on the "management track 1" 207 of the GUI screen. The management data editing part 131 then stores the management data for the short bar 208 set in step S103 in the management data storage 132 (step S105).

[0078] Thus, one piece of management data represented by the short bar 208 has been set to the content body on the "management track 1" 207. If the operator desires to end the management data editing process, all he/she has to do is to give an instruction for ending the editing process. If the operator desires to set management data for another section on the "management track 1" 207, he/she again uses the GUI input unit 15, clicking the "button 1" 201 through to make the character input screen displayed, and carries out the same setting process as above. If the operator desires to set management data on the "management track 2" 211, he/she clicks the "button 3" 202 to display another "management track 2" 211 for carrying out the same setting process as above.

[0079] The management data editing part 131 carries out a series of the following processes based on an input operation by the operator as described above. First, the management data

editing part 131 determines whether to continue the editing process (step S106). If No, the editing process ends, and the procedure returns to the flow of FIG. 2 for steps S2 and thereafter.

5 If Yes in step S106, the management data editing part 131 determines whether to set management data for another section on the current management track (here, the "management track 1" 207) (step S107). If Yes, the procedure returns to step S102 for making again the character input screen displayed on the display unit 16, and then repeats the process as in steps S103 to S107.

10 **[0080]** If No in step S107, the management data editing part 131 makes a new management track (here, the "management track 2" 211) additionally displayed (step S108). Then, when editing the new management data on the "management track 2" 211 displayed in step 15 S108, the management data editing part 131 determines whether to use the management data previously edited and stored in the management data storage part 132 (for example, the management data corresponding to the short bar 208 stored in step S105) (step S109).

20 **[0081]** If Yes in step S109, the management data stored in the management data storage part 132 is copied to the new management track (here, the "management track 2" 211) displayed in step S108 (step S110).

25 **[0082]** Here, a management data copy process of step S110 is carried out as follows, for example. When the operator clicks

the "button 4" 203 on the GUI screen, the management data editing part 131 makes a management data selection screen as shown in FIG. 12 displayed on the display unit 16.

[0083] FIG. 12 is a diagram showing one example of the management data selection screen displayed on the display unit 16 by following an instruction from the management data editing part 131 of FIG. 3. In FIG. 12, the management data selection screen includes a table containing a plurality of pieces of management data previously edited (208, 211, ...) and their details (start/end time, replay order, replay and billing conditions). When the operator clicks any desired management data for use (for example, the management data 208), the management data editing part 131 copies the bar representing the management data onto the "management track 2" 211 of the GUI screen (refer to FIG. 10), and also reads the details of the management data from the management data storage part 132.

[0084] The operator then specifies the in and out times by using the GUI input unit 15 to move the ends of the bar representing the management data displayed on the "management track 2" 211. In response, the management data editing part 131 sets a new piece of management data (step S111). The management data editing part 131 then stores the new management data set through the GUI input unit 15 in the management data storage part 132 (step S112). The management data editing part 131 then determines whether to continue the editing process (step S113). If No, the editing

process ends, and the procedure returns to the flow of FIG. 2 for step S2 and thereafter.

If Yes in step S113, the procedure returns to step S107 for determining whether to set management data for still another
5 section on the "management track 2" 211.

[0085] If No in step S109, the procedure returns to step S102 for making again the character input screen displayed on the display unit 16, and repeats the process of steps S103 to S109.

When the management data editing part 131 ends editing
10 one or more pieces of management data on the respective management tracks, the distribution content creating apparatus 2 executes step S2 of FIG. 2.

[0086] In step S2 of FIG. 2, the distribution content creating apparatus 1 generates management track data for defining a
15 collection of one or more pieces of management data as a management track. The generated data of a plurality of management tracks and the management data edited by the management data editing part 131 are provided to the content body for creating a packaged distribution content.

[0087] In the next step S3, the distribution content creating apparatus 1 temporarily stores the above-created distribution content in the distribution content storage unit 12. Note that the management data previously edited and stored in the management data storage part 132 are used as required when the management
25 data for another content is edited.

[0088] The distribution content creating apparatus 1 then carries out the process in the above step S4 (refer to FIG. 2), that is, the distribution content replay process for checking the above-created distribution content.

5 [0089] FIG. 13 is a flowchart showing the distribution content replay process (details of step S4 in FIG. 2) carried out by the distribution content creating apparatus 1 structured as shown in FIG. 3.

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10 In FIG. 13, the replay unit 17 first reads the distribution content from the distribution content storage unit 12 in response to an instruction from the operator through the GUI input unit 15 (step S201). Then, the replay unit 17 separates the read distribution content into the management track data, the management data, and the content body (step S202).

15 [0090] After the operator specifies any one of the management tracks through the GUI input unit 15, the replay unit 17 reads the management track data corresponding to the specified track (step S203). Then, by following a clock signal, the replay unit 17 replays a specific section of the content body based on
20 the management data included in the specified management track (step S204). The procedure then returns to the flow of FIG. 2.

[0091] Here, the content replay process of the above step S204 is carried out as follows, for example. The content body is provided with a plurality of pieces of management track data that
25 respectively correspond to different use purposes (for example,

for a promotion purpose and a full-package purpose; described later) (refer to the management tracks 207 and 211 of FIG. 10). Therefore, the operator sequentially selects management tracks corresponding to a desired use purpose by using the GUI input unit 15. In response, the replay unit 17 replays the sections that are included in the content body and specified by the management data included in the selected management track in the order also specified by the management data.

[0092] Thus, when the content body is distributed for a promotion purpose or a full-package purpose, the operator of the distribution content creating apparatus 1 can check, for example, how the content body will be replayed by the terminal 4.

[0093] Each piece of management data includes the replay order, replay/billing conditions, and start and end times defining a section to which the above conditions are applied. Based on the clock signal given by the CPU 101 of FIG. 8, for example, and the above replay order and start and end times, the replay unit 17 specifies the replay order in the content body and the section to which the replay/billing conditions are applied. Based on the specified replay order and replay/billing conditions, the replay unit 17 replays the section.

[0094] Note that the replay unit 17 of the distribution content creating apparatus 1 does not replay a section for which the user has to pay a fee specified by the management data. Such section is replayed by the terminal 4 after the fee is charged (described

later).

For example, if the section from t1 to t2 of the content body is provided with such a condition as that the section cannot be replayed until 200 yen is paid, the terminal 4 side replays the section after billing is actually made. On the other hand, the creating apparatus 1 does not charge the terminal for the section or replay the section. Alternatively, the creating apparatus 1 may replay the section regarding as if the fee is paid or as if the fee is not paid.

10 [0095] Described next in detail is the structure and operation of the terminal 4 of FIG. 1.

FIG. 14 is a block diagram illustrating the structure of the terminal 4 of FIG. 1. In FIG. 14, the terminal 4 includes a receiving unit 41, a distribution content storage unit 42, a GUI input unit 43, a replay unit 44, a display unit 45, and a billing unit 46.

15 [0096] The receiving unit 41 receives a distribution content through the network 3. The distribution content storage unit 42 stores the distribution content received by the receiving unit 41.

20 The GUI input unit 43 receives a GUI input from the user. The replay unit 44 is used for the user to view the distribution content in the above described manner. In response to an instruction made by the user through the GUI input unit 43, the replay unit 3 reads the distribution content from the distribution content storage

25 unit 12 for replay, and outputs it to the display unit 45. The

billing unit 46 charges a bill of a predetermined amount to the user for the operation of the replay unit 44.

Note that the hardware structure of the terminal 4 is similar to that shown in FIG. 8.

5 **[0097]** In the above-structure terminal 4, the distribution content replay operation is carried out by the replay unit 44 as follows. FIG. 15 is a flowchart showing the distribution content replay process (a detailed process of step S8 in FIG. 2) carried out by the terminal 4 structured as shown in FIG. 14.

10 **[0098]** In FIG. 15, in response to an instruction given by the user through the GUI input unit 43, the replay unit 44 first reads a distribution content from the distribution content storage unit 42 (step S301). The replay unit 44 then separates the read distribution content into management track data, management data,
15 and a content body (step S302).

[0099] After receiving an instruction indicating a management track specified by the user through the GUI input unit 43, the replay unit 44 reads the management track data corresponding to the specified track (step S303). Based on the management data
20 included in the specified management track, the replay unit 44 replays a specific section of the content body by following a clock signal (step S304). The procedure then returns to the flow of FIG. 2.

[0100] As such, the operation of the replay unit 44 included
25 in the terminal 4 is similar to that of the replay unit 17 included

in the distribution content creating apparatus 1 (refer to the flowchart of FIG. 13). However, the terminal 4 side is different from the creating apparatus 1 side in part of the content replay program stored in the ROM 102 shown in FIG. 8. In step S304, a
5 bill is charged accompanying to the replay.

[0101] FIG. 16 is a flowchart showing the detailed content replay process of step S304 in FIG. 15. In FIG. 16, the replay unit 44 first selects management data of the highest replay order from the management data included in the specified management track (step S401). The replay unit 44 then determines whether
10 the management data selected in step S401 allows the use of a specific section for free (step S402). If No, the procedure goes to step S404.

[0102] If Yes in step S402, the replay unit 44 replays the section specified by the management data selected in step S401 (step S403). The procedure then goes to step S407.
15

[0103] In step S404, the replay unit 44 determines whether the management data selected in step S401 allows replay of the specific section in return for payment. If No, the procedure goes
20 to step S407.

[0104] If Yes in step S404, the replay unit 44 notifies the billing unit 46 of the amount indicated by the management data selected in step S401, and then determines whether the indicated amount has been charged by the billing unit 46 (step S405). If
25 No, the procedure goes to step S407.

[0105] Here, the above billing process is carried out as follows, for example. The billing unit 46 accesses a host computer in a financial institution through the network 3, and transfers a specific amount from a user's account to a distributor's account. Alternatively, the billing unit 46 may deduct the specific amount from a prepaid card previously purchased by the user, or record the specific amount and charge it later on a predetermined date.

[0106] Referring back to FIG. 16, if Yes in step S405, the replay unit 44 replays the section specified by the management data selected in step S401 (step S406). The procedure then goes to step S407.

In step S407, it is determined whether all management data included in the specified management track have been selected.

If Yes, the procedure returns to the flow of FIG. 15.

[0107] If No in step S407, the replay unit 44 selects management data of the next highest replay order from the management data included in the specified management track (step S408). The procedure then returns to step S402, repeating the operation similar to the above.

[0108] As clear from the above, the significant features of the distribution content creating process of the present invention can be categorized into the following six points. First, unlike the conventional one-to-one correspondence between the content body and the management data, the content body is divided

into a plurality of sections on the time axis, and each section can be provided with each different management data. In other words, it is possible to specify a section in the content body, and set management data only effective to that section. This
5 enables different replay conditions to be set to the respective sections. For example, a content body can be replayed only for the first few minutes, or can be replayed for free only for the first few minutes but the rest cannot unless a fee is paid.

[0109] Second, each management data includes a replay order,
10 and therefore the order of replaying the sections can be arbitrarily changed. For example, the three pieces of management data 208 to 210 on the "management track 1" 207 of FIG. 10 includes "first", "third", and "second", respectively. In this case, as shown in FIG. 17, the section from t1 to t2 in the content body
15 206 is first replayed, then the section from t5 to t6, and the section from t3 to t4.

[0110] Third, a plurality of tracks (207, 211, 213) are provided for the content track 205 on the GUI screen, thereby enabling different pieces of management data to be set for the
20 same section of the content body. Thus, it is possible to obtain a distribution content whose content body can be used in a plurality of purposes. Specifically, a single content body can be distributed for a promotion purpose where the content body can be replayed only for a first few minutes for free and, at the same
25 time, for a full-package purpose where the entire content body

can be replayed.

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[0111] As a result of achieving such distribution content including a single content body for a plurality of purposes, the storage amount of the distribution content storage units 12 and 42 of the creating apparatus 1 side and the terminal 4 side, respectively, can be saved. Also, communications costs for distribution can be reduced. Furthermore, in the terminal 4 side, receiving only one distribution content is enough for the user to use the content body as he/she likes. Conventionally, the user has to receive two distribution contents, the promotion one and the full-package one, if he/she wants to try the content before purchase. In the present invention, the terminal 4 receives a distribution content, and then selects a management track by following a user's instruction. The terminal 4 then replays, in the order specified by the management data included in the selected management track, the sections also specified by the management data.

[0112] Fourth, the operator of the distribution content creating apparatus 1 can check how the distribution content will be replayed at the terminal 4 side. When a single distribution content is used for a plurality of purposes (two purposes, for example, a promotion purpose and a full-package purpose), it is possible to check how such distribution content will be replayed when used for the respective purposes.

[0113] Fifth, for editing management data, not only character

inputs use conditions at the time of content distribution. In this example, "unconditional replay" is inputted as the replay condition, "free" as the billing condition, and "first" as the replay order. Furthermore, to specify a section of the content body to which the use condition is effective, an effective period is defined by the start time t1 and the end time t2, which are offset times from the replay start time of the content body. Based on the inputted management data, displayed on the "management track 1" 207 is the bar 208 with its left end at the start time t1 and its right end at the end time t2.

[0116] In response to the operator's mouse 107 operation, the management data editing part 131 edits the start and end times of the management data by extending/shortening, in the time axis (lateral) direction, the bar 208 representing the inputted management. Then, when the operator inputs "unconditional replay", "free", t3 for the start time and t4 for the end time, and "third", the management data editing part 131 places a bar representing the inputted management data on an area between t3 and t4 of the "management track 1" 207. Furthermore, when the operator inputs "unconditional replay", "free", t5 for the start time and t6 for the end time, and "second", the management data editing part 131 places a bar 210 representing the inputted management data on an area between t5 and t6 of the "management track 1" 207. Then, the management data editing part 131 stores the edited management data represented by the bars 208, 209, and

210 in the management data storage part 132. Note that, in the present example, portions where no management data is arranged on the "management track 1" 207 cannot be replayed.

[0117] The edited content management data represented by the bars 208, 209, and 210 are packaged together with the content body, and stored in the distribution content storage unit 12 as a distribution content. The replay unit 17 then reads only data of the sections indicated by the management data corresponding to the bars 208, 209, and 210 as replayable from the distribution content stored in the distribution content storage unit 12. Then, as shown in FIG. 17, data reproduction for the respective sections are carried out in the order as specified by the management data 208, 209, and 210, and the reproduction results are outputted to the display unit 16.

[0118] As such, in the present example, the management data is provided with the start time and the end time, thereby placing a plurality of pieces of management data on the same management track and editing these on the time axis. Thus, it is possible to easily create such a distribution content as that whose content body is intermittently replayed for a plurality of sections (for example, in a movie, only highlight scenes are replayed), which is typified by a promotion distribution content. Also, the management data is provided with the replay order, thereby replaying these sections (highlight scenes) in a desired order.

[0119] (Second example)

With reference to FIGS. 10 and 11, described below is a case of creating a full-packaged distribution content whose entire content can be replayed upon payment of a fee. In the present example, the distribution content having the management data for a promotion purposes created in the first example is provided with management data for a full-package purpose.

[0120] The operator first selects the distribution content (created in the first embodiment) stored in the distribution content storage unit 12. Based on the selected distribution content, the bar 206 is placed on the content track 205 on the GUI screen as shown in FIG. 6. Furthermore, displayed on the "management track 1" 207 are the bars representing the promotion management data 208, 209, and 210.

[0121] The operator then uses the GUI input unit 15, clicking the "button 3" 202 on the GUI screen through for displaying a new "management track 2" 211 for placing a bar representing the management data for the full-package purpose below the "management track 1" 207. The operator clicks "button 1" 200 on the GUI screen in the similar manner as that in the first example for making the character input screen (refer to FIG. 11) displayed on the display unit 16, and inputs replay conditions in the respective fields. Since the distribution content is for the full-package purpose in this example, the operator inputs "conditional replay" as the replay condition, a fee ("200 yen", for example) as the billing condition, and the start time (0) and

the end time (end). Based on the inputted management data, a bar 212 defined by the start and end times is displayed on the "management track 2" 211.

[0122] The full-package management data represented by the bar 212 and edited in the above described manner is added to the distribution content (including the content body, and the promotion management data represented by the bars 208, 209, and 210) created in the first example, and the resulting distribution content is stored in the distribution content storage unit 12.

[0123] The operator then uses the GUI input unit 15 to double-click the "management track 2" 211 where the full-package management data (bar 212) is placed on the GUI screen. In response, the replay unit 17 reads the above distribution content stored in the distribution content storage unit 12 for replaying the content body by following the full-package management data. Note that the terminal 4 side cannot replay the distribution content unless the fee is actually paid. The creating apparatus 1 side, however, preferably replays the content body as if the fee is paid and not paid, for checking whether the above-created distribution content will be replayed correctly by following the management data or for just trying the distribution content for check.

[0124] As such, in the present example, a plurality of management tracks (207, 211, and 213) are provided for the single content track 205 on the GUI screen. Therefore, a plurality of pieces of management data corresponding to the respective use

purposes can be set to a single content body. Such plurality of pieces of management data include, for example, the promotion management data corresponding to the bars 208 to 210, and the full-package management data corresponding to the bar 212. Thus, it is possible to edit the plurality of pieces of management data corresponding to the respective use purposes on the same screen, thereby enabling the operator to efficiently edit the management data.

[0125] Also, the plurality of pieces of management data are provided to a single content body to form a package, and the package is stored as a single distribution content. Therefore, the storage amount of the distribution content storage unit 12 can be saved. Note that, in the conventional art, when a single content body is distributed for a promotion purpose and a full-package purpose, two distribution contents has to be stored, one including the content body and promotion management data and the other including the content body and full-package management data. Thus, the same content body has to be redundantly stored, thereby wasting the storage amount.

[0126] (Third example)

With reference to FIGS. 10 and 11, described below is a case of creating a distribution content including a content body partly provided a visual effect such as a mosaic and incapable of being viewed without the visual effect unless a fee is paid (in other words, the user can see only the video with the mosaic

if the fee is not paid, but if paid, can see the video with the mosaic removed therefrom). Such distribution content is hereinafter referred to as a full package with visual effects. In the present example, the distribution content having two pieces of management data, promotion and full-package, created in the second example, is further provided with management data for the full package with visual effects.

[0127] Similarly to the second example, the operator first selects the distribution content stored in the distribution content storage unit 12. The selected distribution content is shown as the bar 206 on the content track 205 of the GUI screen (refer to FIG. 10). Also, the promotion management data represented by the bars 208, 209, 210 are shown on the "management track 1" 207, and the full-package management data represented by the bar 212 is shown on the "management track 2" 211.

[0128] The operator then uses the GUI input unit 15, clicking the "button 3" 202 on the GUI screen for making a new "management track 3" 213 displayed for the management data for the full package with visual effect. In a similar manner to that in the first example, the operator then clicks the "button 1" 200 on the GUI screen for making the character screen (refer to FIG. 11) displayed on the display unit 16, and inputs replay conditions for the respective fields. In this case, the distribution content is a full package with visual effects, meaning that a fee is charged only for a section with visual effects. Therefore, for the

section with visual effects, the operator inputs "conditional
replay; visual effects removed" as the replay condition, a fee
("200 yen", for example) as the billing condition, and also the
start time (0) and the end time (t7) of that section. Furthermore,
5 for the remaining section, that is, the section without visual
effects, the operator inputs "unconditional" as the replay
condition, "free" as the billing condition, and also the start
time (t7) and the end time (end) of that remaining section. Based
on the inputted management data, bars 214 and 215 each defined
10 by the start time and the end time are displayed on the "management
track 3" 213.

[0129] The above-edited management data for the full package
with visual effects represented by the bars 214 and 215 are added
to the distribution content (including the content body, the
promotion management data represented by the bars 208, 209, and
15 210, and the full-package management data represented by the bar
212) created in the second example, and the resulting distribution
content is stored in the distribution content storage unit 12.

[0130] The operator then uses the GUI input unit 15, clicking
20 the "management track 3" 213 where the bar representing the
management data for the full package with visual effects is placed
on the GUI screen. In response, the replay unit 17 reads the above
distribution content from the distribution content storage
unit 12 for replaying the content body by following the management
25 data represented by the bars 214 and 215 for the full package with

visual effects. Note that the terminal 4 side cannot replay the distribution content without the visual effects unless the fee is actually paid. The creating apparatus 1 side, however, replays the content body as if the fee is paid (a replay with the visual effects) and not paid (a replay with the visual effects), for checking whether the above-created distribution content will be replayed correctly by following the management data or for just trying the distribution content for check.

[0131] As such, in the present example, the content body is partly provided with visual effects such as a mosaic, and then provided with management data edited for replaying the entire content body without the visual effects after the fee is paid. The distribution content creating apparatus 1 can arbitrarily increase the number of pieces of management data provided to the content body, thereby achieving various use purposes.

[0132] (Fourth example)

With reference to FIGS. 10 and 12, described below is a case of reusing the management data previously edited and stored for one distribution content to create another distribution content. In this example, the promotion management data edited in the first example and stored in the management data storage part 132 is reused.

[0133] The content storage unit 11 stores a plurality of content bodies including the content body distributed in the first example. The management data storage part 132 stores the

management data 208 edited in the first example.

The operator first selects a content body for distribution, which is different from that distributed in the first example. Based on the selected content body, the bar 206
5 is displayed on the content track 205 in the GUI screen (refer to FIG. 10) displayed on the display unit 16.

[0134] The operator then uses the GUI input unit 15 such as the mouse 107 to click the "button 3" 202 on the GUI screen, making the "management track 1" 207 displayed for placing the bar
10 representing the management data. The operator also clicks the "button 4" 203, making a table as shown in FIG. 12 displayed, the table containing data (management data previously edited) stored in the management data storage part 132. The operator then clicks the management data corresponding to the bar 208 edited in the
15 first example on that table for selection. The selected management data corresponding to the bar 208 is copied to the "management track 1" 207, and another bar is displayed thereon based on the copied management data.

[0135] Note that, in the first example, the operator clicks
20 the "button 1" 200 to make the character input screen displayed as shown in FIG. 11, and inputs use conditions at the time of content distribution. In the fourth example, such character input can be omitted.

[0136] As described above, in the present example, in addition
25 to the distribution content (including the content body, the

